# MAIN THEME: INTEGRATING TECHNICAL/VOCATIONAL EDUCATION AND TRAINING (TVET) AND OPEN AND DISTANCE LEARNING (ODL):

# SUB- THEME: A STRATEGY FOR DELIVERING SKILLS TRAINING TO THE DOORSTEP OF NIGERIANS

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## Introduction

Nigeria is a country with a population of more than 140 million people, and a total land area of about 923,768sq. Km. As a developing country, and indeed, as other countries in sub-Saharan Africa, Nigeria continues to grapple with the challenges of national development. These challenges include bringing about a steady economic growth made possible by improvements in key strategic areas of national life such as adequate food security, affordable housing, employment opportunities, comprehensive healthcare delivery and, of course, universal educational opportunities. Education, in all its ramifications - universal basic/post basic education, TVET, tertiary education level, ODL, etc, occupies a major place in the achievement of national developmental goals. The Nigerian National Policy on Education expresses awareness of the fact that "education is the most important instrument of change in any society" and stresses also that "any fundamental change in the intellectual and social outlook of any society has to be preceded by an educational revolution" (Blue print on National Open and Distance Learning Programmes). The cardinal goal of this educational policy is to address the quest or the spread of quality education.

The dynamics of globalization, plus the introduction of Information and Communication Technologies (ICT) have resulted in a tidal wave of information that has, in many cases, overwhelmed many countries around the world. This has resulted in radical changes in the educational needs of individuals and society at large; a phenomenon that is reflected in the emerging need for additional specialization in learning. Because the world of work is more complex and fluid, newer approaches to working and learning are in demand. More than ever, educational institutions are required to imbue their students with functional lifelong learning skills they need to survive and meet the challenges and changes wrought by the twenty-first century.

In other words, the evolution of education from the traditional school-based, brick-and-mortar type to the current systems based on information and communication technologies and distance learning, dictates that the TVET sector should also adapt its processes in the expansion of opportunities to these forms of education. This adaptation to newer models of providing educational access is sometimes necessitated by lack of adequate facilities to meet up with the demands of a rising population by government; and at other times, it is a reflection of a peculiar social condition in which potential beneficiaries of educational opportunities are themselves not ready or willing to pursue full-time studies due to their economic or family commitments. It is therefore in appreciation of these factors that most governments have continued to explore the alternative platform of Open and Distance Learning (ODL) as a complement to the goal of providing opportunities for education to the citizenry at all levels.

The term Open and Distance Learning aims to include greater dimensions of openness and flexibility, whether in terms of access, curricula or other elements of structure. The ODL mode offers structured learning in which the instructor and students are separated by time and space, only making use of instructional materials such as print materials, audio and video cassettes, CD ROMs, television and radio broadcasts as well as multimedia components such as computer and satellite transmissions (Peat and Holland, 2002). On the other hand, Technical and Vocational Education and Training (TVET) encompasses programmes that provide participants with skills, knowledge and aptitudes that enable

them to engage in productive work, adapt to rapidly changing labour markets and economies, and participate as responsible citizens in their societies. Such programmes may include skill levels ranging from functional/workplace literacy programmes to more advance technical/vocational skills; delivery within formal institutional and workplace context; and provision for both the unemployed and the employed learners.
The rationale for TVET and ODL integration therefore is to open opportunity for learners to study regardless of geographic, socio-economic or other related constraints.

## Concept and Contribution

## ODL and TVE

The Open and Distance learning, by way of definition, refers to any educational process in which all or most of the teaching is conducted by someone removed in space and or time from the learner, with the effect that all or most of the communication between teachers and learners is through an artificial medium, either electronic or print. Instruction is provided by a mode other than the conventional face-to-face method, and characterized by the physical separation between the teacher and the learner. The instruction is delivered through a variety of media including print, and other information and communication technologies to learners. Advantages of the open learning system include its flexibility of and access to instruction in order to ensure broad availability of education opportunities for all. Another is its openness as the name suggests, with disregard to age, previous level of academic achievement, and other such factors creating artificial barriers to education as a life-long pursuit in a democratic environment. ODl is also cost-effective, provides independence of time, location, space and pace. The system can be used for a variety of learning situations: basic, post basic, tertiary, vocational and non-formal education etc.
TVE on the other hand, is an educational system that focuses on the impartation of practical skills to the learner. This educational system has in recent times played important roles, not only in contributing to the improvement of productivity of a national labour market , but also in assisting individuals to improve their employment prospects in a rapidly changing socio-economic environment.
Nigeria has five types of TVET institutions outside the universities as presented in table 1 below: the pre-vocational and vocational schools at post-primary levels, the post-secondary level technical colleges, the polytechnics and technical teacher education colleges.

**Table 1: Categories of TVE Institutions**

| Category of Institution | | Type of Proprietorship | | | |
|---|---|---|---|---|---|
| | | **Federal** | **State** | **Private** | **Total** |
| Polytechnics | | 21 | 36 | 14 | 71 |
| Innovation Enterprise Institutions (IEIs) | | - | - | 73 | 73 |
| Similar Tertiary Institutions | Colleges of Agric | 17 | 12 | - | 29 |
| | Colleges of Health Technology | 5 | 4 | 1 | 10 |
| Technical Colleges | | 19 | 140 | - | 159 |
| Vocational Enterprise Institutions (VEIs) | | - | - | 19 | 19 |

**Source: National Board for Technical Education (NBTE)**

Experiences both nationally and internationally have shown that conventional education is extremely hard pressed to meet the demands of today's socio-educational milieu, especially for developing countries like Nigeria and; ODL as an educational method has been widely identified as the most potent instrument for combating the educational problems assailing a nation like Nigeria. The ODL mode of learning has the potentials of overcoming barriers and constraints that may prevent learners from accessing and succeeding in quality, lifelong education. It is in realization of this that Nigeria at different times attempted to operate the open and distance learning in her educational system with the eventual establishment of the National Open University which was relaunched in October 2002. However, such efforts to operate the ODL method did not make any inroad into the TVET sector.
As it is, there exists a wide gulf today between the demands for spots in the educational system at the tertiary level versus the actual number of students admitted annually. In a report by Professor Olugbemiro Jegede of National Open University (NOUN) at a presentation on Nigeria's ODL activities to date, he stressed that only about 2,196 million students out of a total of 8 million students have access to tertiary institutions (see table 2 below). Also statistics by the Joint Admissions and Matriculation Board (JAMB) in Table 3 shows that, less than one quarter (17%) of the candidates who applied for polytechnic education got admitted into these institutions.

This lack of capacity has brought to fore the issue of integrating the Technical and Vocational Education and Training and the Open Distance Learning as an innovative and cost effective approach to the educative process.

**Table 2: Enrolments**

| Level | Number of Institutions | Number of Students | Total | No of students with no Access | Total | % of students with no Access Per Total (100%) |
|---|---|---|---|---|---|---|
| Primary | 44000 | 24 million | | 20 million | | 45 |
| Secondary<br>Voc. & Technical | 10000<br>65 | 8 million<br>280000 | | 27 million<br>- | | 77<br>- |
| Coll. Of Education<br>Polytechnics | 64<br>80 | 550000<br>350000 | 2.196 | 2 million | 8million | 69 |
| University | 114 | 1296312 | million | 6 million | | 82 |

**Source: A presentation of Nigeria's ODL activities to date by Prof. Jegede, Abuja, Nigeria 2010**

**Table 3: Applications/Admissions in Nigerian Polytechnics**

| YEAR | MALE | FEMALE | TOTAL APPLICANT | MALE | FEMALE | TOTAL ADMITTED | % OF ADM/APP (M) | % OF ADM/APP (F) | % OF ADM/APP |
|---|---|---|---|---|---|---|---|---|---|
| **2003/2004** | 24551 | 13411 | 37962 | 7277 | 2934 | 10211 | 30 | 22 | 30 |
| **2004/2005** | 16354 | 14301 | 30655 | - | - | 0 | 0 | 0 | 0 |
| **2005/2006** | 14319 | 8805 | 23124 | 3794 | 1994 | 5788 | 26 | 23 | 30 |
| **2006/2007** | 14478 | 8869 | 23347 | 3385 | 1532 | 4917 | 23. | 17 | 20 |
| **2007/2008** | 20143 | 10770 | 30913 | 5208 | 1758 | 6966 | 26 | 16 | 20 |
| **2008/2009** | 13510 | 6147 | 19657 | 192 | 916 | 1108 | 1 | 15 | 10 |
| **TOTAL** | | | 165658 | 19856 (54%) | 9134 (46%) | 28990 | | | |
| TOTAL ADMITTED/TOTAL APPLICANT X 100 = 17% | | | | | | | | | |

Source: Joint Admissions and Matriculation Board (JAMB)

Since education is considered the key to effective socio-economic development, integrating TVET and ODL can be the master key that will ensure equal educational opportunities, alleviate poverty, promote peace, conserve the environment, improve the quality of life for all and help achieve sustainable development. One of the most important features of TVET is its orientation towards the world of work and the emphasis of the curriculum on the acquisition of employable skills. In addition, TVET can be delivered at different levels of sophistication. This means that TVET institutions can respond to the different training needs of learners from different socio-economic and academic backgrounds, and prepare them for gainful employment and sustainable livelihoods. It is within this background that the ODL should be integrated with TVET because of its capacity to provide education of comparable standards in a flexible and learner friendly manner, particularly to those who could not get access to the formal system of education - the un-reached group. Modular courses of varying durations can be offered through the open learning system, having a provision of multi-entry and exit points that is suitable to its targeted beneficiaries.
People, especially those who are traditionally burdened with social and economic responsibilities within the household, often prefer the informal training, which offers flexibility in participation in terms of entry and the period of training. For the vast majority of the workforce, training is often passed down from generation to generation by means of informal apprenticeship and learning on-the-job. However, informal TVET though vibrant is poorly documented in Nigeria.

The 'Technical' skills imparted to the learner through the gigantic and ever expanding system of formal vocational training does not provide them with the opportunity for necessary behavioral changes to work and to maintain a sustained decent standard of living. The question, therefore, is "how can we bring

about the necessary changes through vocational education and training"? An answer to this question can be that "there is a need to groom the abilities of people working in various occupations through short-term vocational courses offered at their door-step".
Thus, there is a need for a paradigm shift in the training approaches in the formal and informal sectors for developing skills attuned to the needs of the society. Maximum effort is therefore needed to enable those who can benefit from skills acquisition to be given access to it. Such access may be through the strategy advanced in this paper - TVET through ODL.

## Objectives of the Strategy

Objectives of the strategy to integrate TVET and the ODL mode include the following:

- To revitalize and harmonize TVET with ODL in order to facilitate the ascending on the use of distance education as a modality that can meet general demand for technical skills.
- To position TVET institutions and ODL programmes as vehicles for socio-economic development, national cooperation and integration.
- To mobilize all stakeholders in a concerted effort to create synergies and share responsibilities for the renewal and harmonization of TVET and ODL policies and strategies.
- To raise literacy level of the population incrementally and systematically to meet the goals of Education for All (EFA) on schedule.
- To improve the existing teaching force as well as train new teachers through this strategy so that UBE objective can be attained as scheduled.
- To increase penetration, wider reach, affordable and cost effective educational opportunities for all so that nobody is left behind.
- To respond effectively to the growing demand of working adults or any others who have difficulties in getting training in conventional education because of lack of flexibility in the timing and location of courses; and
- To provide an opportunity for the empowerment of those most disadvantaged by existing provision - the unemployed, the disabled, women and ethnic minorities.

## Challenges and Opportunities

It is obvious that for the ODL environment, the teaching of practical skills poses considerably more difficulties than the teaching of knowledge and theory. While the open learners in academic education learn mostly from self-instructional packages, the vocational open learners would require on-the-job training sites for acquiring practical skills and work experience. Therefore the vocational open learner inevitably needs the support of human beings and machines for attaining the competencies to perform at the work place. In addition, the presence of an instructor is especially necessary to provide the appropriate, timely and individualized feedback on the performances of the learner and to encourage the learner to perform even better in technical skills. This not withstanding however, with the current trends in information and communication technologies development, TVET and ODL experts are in agreement that the ODL education delivery mode can be, and is indeed being deployed effectively and efficiently in the delivery of TVET in other parts of the world. Indeed, the ODL mode is considered the most virile, viable and cost-effective means in meeting the educational development goals of Nigeria especially as the country continues to grapple with limited access to education and training for children and young people, as can be observed in Table 4 below; and at the same time, to address the high illiteracy level of its older generation. There is no doubt that the nation's educational system has failed to meet the desires of those disadvantaged by distance and location, such as the seasonal workforce and the rural community dwellers.
Integrating ODL with TVET to provide quality programmes for practical skills training for a variety of vocations though still a major challenge is capable of bring about the most needed technological and economic advancement in the country.

Paradoxically, the rapid development of Information and Communication Technologies (ICT) and the move towards more knowledge - intensive, interdependent and internationalized societies, create new challenges and opportunities for the design and delivery of education. This is giving rise to situations where those who have the greatest need of them - disadvantaged groups, rural communities, illiterate populations - do not have access to the tools which would enable them to become full-fledged members of the knowledge society.

## TVET Delivery Strategies Using ODL

Integrating the ODL mode in TVET is significant in that it responds in the most effective way to the growing demand of working adults or any others who have difficulties in getting training in conventional education because of lack of flexibility in the timing and location of courses; and secondly, provides an opportunity for the empowerment of those most disadvantaged by existing provision- the unemployed, the disabled, and women in certain cultures. It offers different opportunities and satisfies different needs: For the students/learners, integrating TVET with ODL means increased access and flexibility as well as the combination of work and education. It may also mean a more learner - centered approach, enrichment, higher quality and new ways of interaction. For employers, it allows upgrading of skills, increased productivity and development of a new learning culture. In addition, it means sharing of costs, of training time and increased portability of training. For the government, it is a potential to increase the capacity and cost effectiveness of education training system, to reach target groups with limited access to conventional education and training, to support and enhance the quality and relevance of existing educational structures, to ensure the connection of educational institutions and curricula to the emerging networks and information resources, and to promote innovation and opportunities for lifelong learning.

Open and distance learning in the field of TVET makes up a mixed and complex picture. It may include experimental work and hands-on-training as an integral element. It has often been developed by private institutions and enterprises, and makes an important contribution to human development. The newly established Innovation Enterprise Institutions (IEIs) and Vocational Enterprise Institutions (VEIs) are private institutions in Nigeria whose role include: teaching practical skills relevant to private sector needs, providing link between education, technology, innovation and the labour market, focus on practical training with ample opportunities for innovative workplace experience. There are a total of 73 IEIs and 19 VEIs institutions accredited by National Board for Technical Education (NBTE) running different Technology programmes (table 5) that can be tailored to ODL mode of delivery, to further enhance access and improve skills of the country's teeming youths.

**Table: 5 Programmes Available in Innovation Enterprise Institutions (IEIs)**

1. **Agriculture and Related Sector**
   - Innovation Agriculture

2. **Construction and Engineering and Related Sector**
   - Building Construction

3. **Creative Art and Related Sector**
   - Film and Television Production

4. **Information and Communication Technology (ICT) and Related Sector**
   - Computer Hardware Technology

- Computer Software Technology
- Digital Multimedia Technology
- Networking and System Security

**5. Oil and Gas Related Sector**
- Petroleum Geosciences

**6. Paralegal and Related Sector**
- Paralegal Studies

**7. Professional Development Teaching and Related Sector**
- Early Childcare Education and Management (ECEM)

**8. Telecommunication and Related Sector**
- Telecommunication Technology

**9. Welding and Fabrication Sector**
- Welding and Fabrication Engineering Technology

**Source: Directory of Accredited Programmes, NBTE, 2010**

Electronically supported open and distance learning programmes using the World Wide Web are now substantially employed in technical, vocational and professional education. Many countries have developed vocational, polytechnic and other types of short-cycle colleges, sometimes spanning both secondary and post-secondary levels. One may also mention training for agriculture and for public administration and health services for particular needs.

TVET is an expanding field in which open and distance learning is used to a great extent. The ultimate benefit will be that the un-reached will have access to educational opportunities. The need for recurrent and continuous updating of knowledge and skills is recognized as a fundamental demand in society today, and ODL with its decentralized and flexible delivery and its modular structure of courses and curricular has become an obvious way of meeting this need. Thus, ODL becomes handy for this purpose as it has the potential of developing particular courses for particular needs.

Integrating TVET with ODL which needs to be considered will provide skills training at the doorstep of the learner. It caters to the requirement of a variety of target groups, which will include youths, traditional artisans and craftsmen, adults, unskilled and semi-skilled workers, socially disadvantaged groups, women, people with disabilities, refugees and under-privileged and marginalized youths.

## Conclusion

The TVET and ODL option, as documented here, provides a strategic framework for the development of national policies to address the challenges of technical/vocational education and training to support economic development and the creation of national wealth as a contribution to poverty eradication as well as address the issue of educational opportunities for all.

The strategy addresses the cross-cutting issues of employability, relevance, collaboration between training institutions and employers, accreditation of training providers (in the formal, non-formal and informal sectors), assessment, certification and quality assurance of training programmes and portability of vocational qualifications across boundaries. Therefore, a framework should be developed along this line in order to provide a credible system of certification of skills that are portable and recognized across enterprises, sectors, industries and educational institutions, whether public or private.

The strategy recommends an integration of TVET and ODL system that is competency based and employment led, with proficiency testing as proof of competence.

In order to meet up with the basic requirements for technology development, an effective harmonized, consistent and durable technology planning policies imbued with pragmatic implementation, TVET and ODL strategies will have to be used as a key instrument of technological development and eventual transformation of the nation.

Thus, it is strongly recommended that integrating TVET with ODL will provide a lasting solution to combat the drought in skills acquisition facing Nigeria.

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